

# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: Samir A. Bhavsar  
Baker Botts LLP  
2001 Ross Avenue  
Dallas, Texas 75201

**DOCKETED**

## PCT

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT AND  
THE WRITTEN OPINION OF THE INTERNATIONAL  
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing  
(day/month/year) **30 APR 2007**

Applicant's or agent's file reference <b>069547.0367</b>	<b>FOR FURTHER ACTION</b> See paragraphs 1 and 4 below
International application No. <b>PCT/US 06/30636</b>	International filing date (day/month/year) <b>04 August 2006 (04.08.2006)</b>
Applicant <b>ESPEED, INC.</b>	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

**When?** The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

**Where?** Directly to the International Bureau of WIPO, 34 chemin des Colombettes  
1211 Geneva 20, Switzerland, Facsimile No.: +41 22 740 14 35

**For more detailed instructions,** see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to the protest against payment of (an) additional fee(s) under Rule 40.2,** the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until **30 months** from the priority date (in some Offices even later); otherwise, the applicant must, within **20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the ISA/US  
Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450, Alexandria, Virginia 22313-1450  
Facsimile No. 571-273-3201

Authorized officer:

Lee W. Young

PCT Helpdesk: 571-272-4300  
PCT OSP: 571-272-7774

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 069547.0367	<b>FOR FURTHER ACTION</b>	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US 06/30636	International filing date ( <i>day/month/year</i> ) 04 August 2006 (04.08.2006)	(Earliest) Priority Date ( <i>day/month/year</i> ) 04 August 2005 (04.08.2005)
Applicant ESPEED, INC.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

- ☒ the international application in the language in which it was filed  
☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II)

3. ☐ **Unity of invention is lacking** (see Box No. III)

4. With regard to the **title**,

- ☒ the text is approved as submitted by the applicant  
☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- ☐ the text is approved as submitted by the applicant  
☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 1  
☐ as suggested by the applicant  
☒ as selected by this Authority, because the applicant failed to suggest a figure  
☐ as selected by this Authority, because this figure better characterizes the invention  
b. ☐ none of the figures is to be published with the abstract

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 06/30636

**Box No. IV    Text of the abstract (Continuation of item 5 of the first sheet)**

An apparatus for processing trading orders comprising first and second orders. The first and second orders are associated with a product and comprise a displayed quantity and a reserved quantity. The apparatus receives a counterorder associated with the product and fills the displayed quantity of the first and second order with a respective corresponding portion of the counterorder, and allocates a first additional portion of the counterorder to the first order.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 06/30636

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) G06Q 40/00 (2007.01)  
USPC 705/37

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) G06Q 40/00 (2007.01)

USPC 705/37

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
705/35, 36; 700/90, 91, 92

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

USPTO WEST (PGPB, USPT, EPAB, JPAB); DIALOG PRO; GOOGLE

Search Terms Used: counter order, reserve, quantity, trading, aggregate, order, market, buy

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004/0143538 A1 (KORNHAMMER et al.) 22 July 2004 (22.07.2004), entire document	1-30
A	US 2004/0236662 A1 (KORNHAMMER et al.) 25 November 2004 (25.11.2004) entire document	1-30
A	US 2005/0027635 A1 (MONROE et al.) 3 February 2005 (03.02.2005), entire document	1-30
A	US 2005/0055304 (LUTNICK, H.W. et al) 10 March 2005 (10.03.2005), entire document, especially para [0039]	1-30
A	US 2005/0171890 A1 (DALEY, T.J. et al) 4 August 2005 (04.08.2005), entire document especially para [0003]	1-30

☐ Further documents are listed in the continuation of Box C.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

27 February 2007 (27.02.2007)

Date of mailing of the international search report

30 APR 2007

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents  
P.O. Box 1450, Alexandria, Virginia 22313-1450

Facsimile No. 571-273-3201

Authorized officer:

Lee W. Young

PCT Helpdesk: 571-272-4300

PCT OSP: 571-272-7774

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

# PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

To: Samir A. Bhavsar  
Baker Botts LLP  
2001 Ross Avenue  
Dallas, Texas 75201

Date of mailing  
(day/month/year)

30 APR 2007

Applicant's or agent's file reference  
069547.0367

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/US 06/30636

International filing date (day/month/year)

04 August 2006 (04.08.2006)

Priority date (day/month/year)

04 August 2005 (04.08.2005)

International Patent Classification (IPC) or both national classification and IPC

IPC(8) - G06Q 40/00 (2007.01)

USPC - 705/37

Applicant  
ESPEED, INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/US  
Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450, Alexandria, Virginia 22313-1450  
Facsimile No. 571-273-3201

Date of completion of this opinion

27 February 2007 (27.02.2007)

Authorized officer:

Lee W. Young

PCT Helpdesk: 571-272-4300  
PCT OSP: 571-272-7774

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US 06/30636

**Box No. I      Basis of this opinion**

1. With regard to the **language**, this opinion has been established on the basis of:
  - ☒ the international application in the language in which it was filed
  - ☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purpose of international search (Rules 12.3(a) and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. **type of material**
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. **format of material**
    - ☐ on paper
    - ☐ in electronic form
  - c. **time of filing/furnishing**
    - ☐ contained in the international application as filed
    - ☐ filed together with the international application in electronic form
    - ☐ furnished subsequently to this Authority for the purposes of search
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US 06/30636

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims	5, 9, 15, 19, 25, 29	YES
	Claims	1-4, 6-8, 10-14, 16-18, 20-24, 26-28, 30	NO
Inventive step (IS)	Claims	none	YES
	Claims	1-30	NO
Industrial applicability (IA)	Claims	1-30	YES
	Claims	none	NO

**2. Citations and explanations:**

Claims 1-4, 6-8, 10-14, 16-18, 20-24, 26-28, and 30 lack novelty under PCT Article 33(2) as being anticipated by US 2004/0143538 A1 to Kornhammer et al. (hereinafter 'Kornhammer').

As per claims 1, 11 and 21, Kornhammer discloses an apparatus, a method and a platform for processing trading orders, comprising a memory operable to store: a first order associated with a product comprising a displayed quantity and a reserved quantity (an order for a first financial instrument of the plurality of financial instruments is received from a first user, the order includes a first price per unit component, and a first unit quantity, the first unit quantity includes a disclosed liquidity quantity and an undisclosed liquidity quantity, see para [0016]); and a second order associated with the product and comprising a displayed quantity and a reserved quantity (a first sub-order, including the first price per unit component and the disclosed liquidity quantity and not including the undisclosed liquidity quantity, is sent to a first one of the plurality of trade execution entities for execution, see para [0031]); a processor coupled to the memory and operable to: receive a counterorder associated with the product (a reciprocal order for the first financial instrument, see para [0017]); facilitate filling the displayed quantity of the first order with a corresponding portion of the counterorder; facilitate filling the displayed quantity of the second order with a corresponding portion of the counterorder (as a function of (1) the price per unit value and the disclosed liquidity quantity for the first financial instrument in the updated order book information, and (2) the first price per unit component and the first undisclosed liquidity quantity, the reciprocal order is sent to one of the plurality of trade execution entities, see para [0018]); and allocate a first additional portion of the counterorder to the first order, the first additional portion of the counterorder to the first order, the first additional portion based at least in part on a ration of the displayed quantity of the first order to a sum of the displayed quantity of the first order and the displayed quantity of the second order (If the target one of the trade execution entities is the first one of the trade execution entities, the method sends a second sub-order, including the first price per unit component and a second disclosed liquidity quantity equal to at least a portion of the undisclosed liquidity quantity to the target one of the trade execution entities; and then sends the reciprocal order to the target one of the trade execution entities, see para [0031]).

As per claims 2, 12 and 22, Kornhammer further discloses wherein the processor is further operable to allocate a second additional portion of the counterorder to the second order, the second additional portion based at least in part on a ration of the displayed quantity of the second order to the sum of the displayed quantity of the first order and the displayed quantity of the second order (the method sends a second sub-order, including the first price per unit component and a second disclosed liquidity quantity equal to at least a portion of the undisclosed liquidity quantity to the target one of the trade execution entities; and then sends the reciprocal order to the target one of the trade execution entities, see para [0031]).

As per claims 3, 13 and 23, Kornhammer further discloses wherein the first and second orders comprise buy orders (buy order (or bid), see para [0053]) and the counterorder comprises a sell order (initiated a reciprocal (i.e., opposing), see para [0071] and claim 3).

As per claims 4, 14 and 24, Kornhammer further discloses wherein the first and second orders comprise sell orders (an ECN sell order, see para [0071]) and the counterorder comprises a buy order (initiated a reciprocal (i.e., opposing), see para [0071] and claim 3).

As per claims 6, 16 and 26, Kornhammer further discloses wherein the memory is further operable to store a third order (three orders have been placed, see para [0094]) associated with the product and comprising a displayed quantity and a reserved quantity; and the processor is further operable to facilitate filling the displayed quantity of the third order prior to allocating the first additional portion of the counterorder (Fig. 3).

As per claims 7, 17 and 27, Kornhammer further discloses wherein the third order is received prior to the counterorder (The order server is configured to receive, from one or more users, orders for one or more of a plurality of financial instruments, at least some of the orders including a disclosed liquidity value and an undisclosed liquidity value, see para [0029]-[0030]).

As per claims 8, 18 and 28, Kornhammer further discloses wherein the processor determines whether any portion of the counterorder remains unfilled after the displayed quantities of the first order, second order, and the third order are filled (It will then assess whether there is enough stock at the 24.05. level to fill the order, see para [0060]); and the processor allocates the first additional portion of the counterorder to the first order only if some portion of the counterorder remains unfilled after the displayed quantities of the first order, the second order, and the third order are filled (make this information available to reciprocal orders from other of its user/traders. This permits orders to hit or take as large a size as is possible, in essence disregarding the displayed size, see para [0072]).

-- CONTINUED IN SUPPLEMENTAL BOX --

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US 06/30636

**Supplemental Box**

**In case the space in any of the preceding boxes is not sufficient.**

Continuation of:

v. 2 Citations and explanations

As per claims 10, 20 and 30, Kornhammer further discloses wherein the processor is further operable to determine whether any remaining portion of the counter order exists prior to allocating the first additional portion (the system considers undisclosed liquidity which is being maintained in CCS 100 when routing a reciprocal order that can access multiple trade execution entities, see para [0091])

Claims 5, 9, 15, 19, 25 and 29 lack an inventive step under PCT Article 33(3) as being obvious over Kornhammer.

As per claims 5, 15 and 25, Kornhammer discloses an apparatus as provided above with respect to claims 1, 11, 21 for apportioning trading ordering orders based on size of displayed quantities. Kornhammer, however, does not specifically disclose wherein the displayed quantity of the first order and the displayed quantity of the second order are filled in the same sequence that the first order and the second order were received. It would have been obvious to one of ordinary skill in the art that the orders are filled in the sequence they are received because first in first out is a common choice in determining the execution of orders. Further, using such a methodology with the method in Kornhammer would enhance its functionality.

As per claims 9, 19 and 29, Kornhammer further discloses the processor is operable to allocate a second additional portion of the counterorder to the first order (the method sends a second sub-order, including the first price per unit component and a second disclosed liquidity quantity equal to at least a portion of the undisclosed liquidity quantity to the target one of the trade execution entities; and then sends the reciprocal order to the target one of the trade execution entities, see para [0031]). Kornhammer, however, does not specifically disclose the first order received at a first time and the second order received at a second time and using the difference between the first and second time to allocate a portion of the counterorder. It would have been obvious to one of ordinary skill in the art to ensure that the orders are received at different times because orders commonly happen sequentially and it would have been obvious that the difference in time would impact the allocated portion as the information about the orders change over time. Incorporating the use of the difference in time between a first order and second order with the method in Kornhammer would make the Kornhammer method more useful in real world situations and thereby enhances its overall appeal.

Claims 1-30 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.